CLAMPING PLATE WITH INTEGRATED THERMAL INSULATION

[0001] In standardized mold making, the structure of the mold is at present generally formed according to the following principle:

[0002] The mold is made of two parts and consists of a feed side and an ejector side. The height and/or the number of mounting plates and mold carrying plates of the respective half-molds is determined by the dimensions of the production part. A so-called clamping plate (**1** to **3**), having usually a larger width, is attached at the end of both half-molds and the other mold structure plates (**4**) are screwed thereto. The area of the clamping plate that projects the most on both sides is then used to connect the half-molds with the molding press, e.g., by means of brackets. In addition, thermal protection plates have been employed over the past several years to minimize the heat transfer to the molding press. Thermal protection plates, which are commercially available from resellers or directly from the manufacturers, are screwed onto the front surfaces of the clamping plates.

[0003] Thermal protection plates are often damaged during exchange of molds due to the heavy weight and the handling with lifting equipment. As a result and often unnoticed, the exterior surface of the tools becomes uneven, thereby putting the overall parallel alignment of the mold structures at risk. In addition, it often takes much effort to mount the thermal protection plates competently and level-surfaced. Furthermore, the standard material structure and the production technology applicable to mold structure plates make the parallel alignment of high performance mold structures impossible to attain on a commercial scale.

[0004] This invention arises out of the underlying need for an optimal thermal protection over the entire equipment lifetime without limitations vis-a-vis the parallel alignment of the mold structures.

[0005] This requirement is fulfilled in embodiments of the invention in that the clamping plate is provided as a multilayer composite panel having thermally-insulating steel components (**2**) and tool steel components (**1**) and (**3**), while the exterior sides are always made of tool steel.